

AMENDMENTS TO THE CLAIMS

Claims 1-11 (cancelled).

12. (Previously presented) A capillary array electrophoresis apparatus comprising:
a capillary array constituted by a plurality of capillaries for containing electrophoresis medium for separating specimen, said capillary array including a detection portion formed by at least parts of the capillaries, said parts being aligned substantially on a plane;
a power source adapted to apply a voltage between respective ends of the capillaries; and
an irradiation and detection system including no less than one laser oscillator for irradiating laser beams across the detection portion respectively from both sides of the detection portion and for detecting light emitted from the specimen,
wherein the laser beams are incident on said plane so that the laser beams propagate successively to adjacent capillaries, and the laser beams transmitted through the detection portion do not return to the laser oscillator.

13. (Previously presented) A capillary array electrophoresis apparatus comprising:
a capillary array constituted by a plurality of capillaries for containing electrophoresis medium for separating specimen, said capillary array including a detection portion formed by at least parts of the capillaries, said parts being aligned substantially on a plane;
a power source adapted to apply a voltage between respective ends of the capillaries; and
an irradiation and detection system including no less than one laser oscillator for irradiating laser beams across the detection portion and for detecting light emitted from the specimen,
wherein the laser beams are substantially coaxial within the detection portion, and not coaxial in the space out of the detection portion.

14. (Currently amended) A capillary array electrophoresis apparatus comprising:

a capillary array constituted by a plurality of capillaries for containing electrophoresis medium for separating specimen, said capillary array including a detection portion formed by at least parts of the capillaries, said parts being aligned substantially on a plane;

a power source adapted to apply a voltage between respective ends of the capillaries; and
an irradiation and detection system including no less than one laser oscillator for irradiating laser beams across the detection portion and for detecting light emitted from the specimen,

wherein the laser beams are ~~incident on~~ inclined to said plane, and the laser beams propagate to adjacent capillaries.

15. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the laser beam is incident on an outermost end capillary in the detection portion in an inclined manner so that an optical path of the incident laser beam into the end capillary differs from an optical path of a laser beam reflected from the detection portion.

16. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein an optical axis of the laser beam incident on an outermost end capillary is inclined with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

17. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein each capillary is a glass tube covered with a coating and at least the coating on the capillary in the detection portion is removed.

18. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein an optical axis of the laser beam incident on the end capillary is inclined with

respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

19. (Previously presented) A capillary array electrophoresis apparatus according to claim 18, wherein an optical axis of the laser beam incident on the end capillary is inclined by about 2° with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

20. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the irradiation and detection system includes a lens which converges a laser beam parallel with a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion, and upon displacement, said lens is capable of inclining the laser beam with respect to the perpendicular line.

21. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the irradiation and detection system includes a wavelength dispersion mechanism which disperses a wavelength of light radiated from the detection portion in a direction that is substantially perpendicular to an optical axis of the laser beam crossing the detection portion.

22. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the wavelength dispersion mechanism includes at least a grating or a prism.

23. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the irradiation and detection system includes a two dimensional CCD for detecting

a light radiated from the detection portion and having a grid of pixels configured substantially parallel with an optical axis of the laser beam crossing the detection portion.

24. (Currently amended) A capillary array electrophoresis apparatus according to claim [[1]] 12, wherein the irradiation and detection system includes a laser beam preventing member which substantially passes a laser beam irradiated into the detection portion and substantially interrupts a laser beam transmitted through the detection portion.

25. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the laser beam is incident on an outermost end capillary in the detection portion in an inclined manner so that an optical path of the incident laser beam into the end capillary differs from an optical path of a laser beam reflected from the detection portion.

26. (Previously presented) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein an optical axis of the laser beam incident on an outermost end capillary is inclined with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

27. (Previously presented) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein each capillary is a glass tube covered with a coating and at least the coating on the capillary in the detection portion is removed.

28. (Previously presented) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein an optical axis of the laser beam incident on the end capillary is inclined with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

29. (Previously presented) A capillary array electrophoresis apparatus according to claim 28, wherein an optical axis of the laser beam incident on the end capillary is inclined by about 2° with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

30. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the irradiation and detection system includes a lens which converges a laser beam parallel with a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion, and upon displacement, said lens is capable of inclining the laser beam with respect to the perpendicular line.

31. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the irradiation and detection system includes a wavelength dispersion mechanism which disperses a wavelength of light radiated from the detection portion in a direction that is substantially perpendicular to an optical axis of the laser beam crossing the detection portion.

32. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the wavelength dispersion mechanism includes at least a grating or a prism.

33. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the irradiation and detection system includes a two dimensional CCD for detecting a light radiated from the detection portion and having a grid of pixels configured substantially parallel with an optical axis of the laser beam crossing the detection portion.

34. (Currently amended) A capillary array electrophoresis apparatus according to claim [[2]] 13, wherein the irradiation and detection system includes a laser beam preventing member which substantially passes a laser beam irradiated into the detection portion and substantially interrupts a laser beam transmitted through the detection portion.

35. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the laser beam is incident on an outermost end capillary in the detection portion in an inclined manner so that an optical path of the incident laser beam into the end capillary differs from an optical path of a laser beam reflected from the detection portion.

36. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein an optical axis of the laser beam incident on an outermost end capillary is inclined with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

37. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein each capillary is a glass tube covered with a coating and at least the coating on the capillary in the detection portion is removed.

38. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein an optical axis of the laser beam incident on the end capillary is inclined with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

39. (Previously presented) A capillary array electrophoresis apparatus according to claim 38, wherein an optical axis of the laser beam incident on the end capillary is inclined by about 2° with respect to a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion.

40. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the irradiation and detection system includes a lens which converges a laser beam parallel with a line that is perpendicular to a center axis of the end capillary on a plane formed by center axes of the capillaries in the detection portion, and upon displacement, said lens is capable of inclining the laser beam with respect to the perpendicular line.

41. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the irradiation and detection system includes a wavelength dispersion mechanism which disperses a wavelength of light radiated from the detection portion in a direction that is substantially perpendicular to an optical axis of the laser beam crossing the detection portion.

42. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the wavelength dispersion mechanism includes at least a grating or a prism.

43. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the irradiation and detection system includes a two dimensional CCD for detecting a light radiated from the detection portion and having a grid of pixels configured substantially parallel with an optical axis of the laser beam crossing the detection portion.

44. (Currently amended) A capillary array electrophoresis apparatus according to claim [[3]] 14, wherein the irradiation and detection system includes a laser beam preventing member which substantially passes a laser beam irradiated into the detection portion and substantially interrupts a laser beam transmitted through the detection portion.